AGC/WSDOT Structures Team Minutes
October 20, 2006

Members

Attendees:	Company	Phone	E-mail
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Guest

Attendee:	Company	Phone	E-mail
Finnegan, Tom	Kiewit Const.	425-255-8333	tom.finnegan@kiewit.com

[1] WSDOT

The meeting started at 09:00.

1. Approval of June Meeting Minutes

30 June 2006 AGC/WSDOT Structures Team Minutes were accepted with the following comments:

- Members questioned use of 3 inch diameter nails for the SR-522 UW Bothell/CCC Campus South Access Project.
- Members noted that diamond grinding would have to be coordinated with approach slab to ensure full grinding of bridge deck ends.

2. Concrete Performance Mix Criteria Update, Fly Ash and Slag Supplies

Mohammad Sheikhizadeh discussed ongoing work by WSDOT to identify performance characteristics of each concrete classification with the eventual goal to change our contract specifications to require performance based mix design.

Mo also conveyed the success of mix designs using slag in place of fly ash, which was necessary during the recent fly ash shortage. Concrete with slag has performed well and provided improved permeability performance. WSDOT is working to increase the

allowable slag proportion from 25% by weight of the total cementation material to 35%, as allowed for fly ash.

Action Item: Mo will keep the team informed of specification development.

3. AGC Lead Team News

Mo explained that the AGC Annual meeting is scheduled for 4 January 2007 and that the AGC/Structures team is requested to provide a presentation. Mo will contact a representative from Obiyashi constructing the Beacon Hill Tunneling project for the presentation.

During general discussion, Jugesh Kapur commented that Bridge Design Office is receptive to use of precast segmental girder construction based on recent University of California San Diego studies. Mo discussed research for lightweight concrete, including limitation of only 3 suppliers of lightweight aggregate and ongoing NCHRP study on the subject.

Action Item: Mo will find a presenter for the 4 Jan 07 annual meeting.

4. Implementation of A-706 Steel Reinforcement Bars in WSDOT Projects

Jugesh informed the team that all bridge projects after 2 Jan 07 would require ASTM A706 rebar, instead of the current allowance for AASHTO M31 or ASTM A706. This change provides better weldability, improved bending, and increased ductility for seismic performance. M31 rebar will remain optional for precast prestressed members, approach slabs, sidewalks, and similar concrete elements. The change is statewide and independent of seismic zone. The A706 bars have identifying marks that differentiate them from the M31 bars and have the same yield strength of 60 ksi.

Action Item: No further action by team.

5. Updates to WSDOT Std Spec 6-09.3(6) Further Deck Preparation

Mo provided a handout of the current specification and asked the team if WSDOT or the Contractor should evaluate the deck to determine locations of unsound concrete and consequent further deck preparation. The team discussed the issue and related instances where it has been contentious on recent projects. The current specification states that the Contractor shall mark the locations of unsound concrete under the direction of the Engineer.

General discussion included the following issues:

- Team believes issue may be improved by better training of WSDOT inspectors.
- WSDOT believes that hydromill scarifies surface and provides uniformly sound concrete; however, team is worried about environmental impact of pH runoff and consequent requirements for watertight deck. Comment was that Best Management Practice 253 allows infiltration of high pH runoff in cases where WSDOT prohibits it.
- Team recommends Contractors do chaining

- Requirement of concrete containment may create shadow effect violating environmental permits.

Action Item: Mo will re-write Std Spec 6-09.3(6) and evaluate changes that include WSDOT directing concrete removal and accepting associated risk of overlay debond.

6. Update to WSDOT Std Spec 6-02.3(17)N Removal of Falsework and Forms

Mo initiated discussion of the term "dense plywood" which is included in the specification as a requirement for early formwork removal on side faces. The term "dense" was included in the spec to obtain the performance characteristic of an impermeable face that does not absorb needed moisture from curing concrete surface. The team discussed the term and agreed that there is no standard definition for "dense", but was unable to reach consensus on existing plywood classifications that would meet the performance requirement.

Action Item: Mo will evaluate term "dense" and replace or remove from the specification.

7. Concrete Consolidation under Prestressed Girder Flanges at Intermediate Piers

Mo provided a handout with details of the typical flush-face and recessed-face fixed diaphragms for WSDOT prestressed girders at intermediate piers. Issue was introduced that construction of the diaphragm beneath the deeper girder bottom flanges and around the oak blocks is extremely difficult and frequently is accomplished by means that are not in conformance with WSDOT requirements to place concrete in its final location without use of vibrator for concrete relocation.

During general discussion members stated that the concrete placed under the girder on the span side of the oak blocks was used only to prevent birds roosting or debris collecting on the crossbeam. Jugesh stated that girders have no significant vertical motion or vibration at the span-side edge of the crossbeam. Team recommend to dry-pack concrete in front of the oak blocks or to use a system of compressible pads and grout at the span-side edge of the crossbeam under the girder. Team also recommends that designers note the preferred construction procedure on the contract plans.

Action Item: Team is requested to evaluate alternatives and provide feedback at the next meeting.

8. Contractor Stats on WSDOT Projects

Mo provided handouts showing the following Contractor statistics on WSDOT projects:

- 2005 – 2006 YTD Contract Award to Estimate with Average Number of Bidders By Month
- Prime Contractor's Market Shares Above 1% - Awarded Contract Totals for CY 2005
- Prime Contractor's Market Shares Above 1% - Awarded Contract Totals for CY 2006 YTD
- CY 2005 Contract Award Dollars Distributed by Region

- 2006 YTD Contract Award Dollars Distributed by Region

Action Item: No further action by team.

9. Reinstatement of Mandatory DBE

Mo provided a handout to the team that explained the new WSDOT requirements for mandatory Disadvantaged Business Enterprise (DBE) participation goals on appropriate highway projects. The limits will be determined by what the project can support, based on available labor at the different project locations. WSDOT statewide goal is 18.77%. Additional information on the DBE goals is available at http://www.wsdot.wa.gov/oeo/.

Action Item: No further action by team.

10. Lump Sum Incentive for Final Documentation Submittals

Mo informed the team that new WSDOT contracts may include incentives for timely submittal of paper work by contractors for contract closures.

Action Item: No further action by team.

11. Discussion of WSDOT as Owner

Mo handed out an ENR editorial entitled "Project Owners with Few Bidders May Be Stinky Clients" and asked the team what WSDOT should be doing to smell good and get more bidders on upcoming projects. Team tabled this discussion to the next meeting after all have reviewed the ENR article.

Action Item: Future agenda item will allow team discussion of WSDOT practices that may be discouraging bidders.

12. Changes to Drilled Shaft Special Provisions

Mo described work undertaken by WSDOT and the ADSC committee toward improving force account (FA) policies for drilled shaft work. WSDOT has concern that FA costs may be inflated in some instances.

WSDOT proposal was to include in contracts an estimated number of hours for drilled shaft FA work and require a bid per hour. WSDOT would retain risk for inflation of the number of hours at the hourly bid rate. Discussion included worry about bid gaming, potential shift of risk back to drillers, lack of benefit for drill equipment that needs fewer FA hours, and potential benefit to least effective and least costly obstruction removal methods. Following significant discussion, the committee had no consensus recommendation; however, a majority of the committee favored no change to the current WSDOT drilled shaft FA provisions.

Action Item: A member from the team will attend the upcoming ADSC meeting to address this issue and relate the prime Contractor's perspective. This topic will be added to the next agenda for further exploration and presentation of ADSC committee opinion.

13. Update to WSDOT Std Spec 2-03.2 Temporary Excavations

Mo provided a handout revised standard specification. Revision included addition of new Section 2-03.2 and modification of open pit excavation in Section 2-09.3(3)B. Discussion of the changes was deferred to the next meeting to allow members to review the handout.

Action Item: Future agenda item will allow team discussion of WSDOT proposed changes for temporary excavations.

14. Lessons Learned from Fog Curing Bridge Decks at Keys Road

Mo and Tobin Smith discussed the process of bridge deck fog curing at Keys Road Bridge and related observations of subsequent deck performance. The fogging process required approximately 90 minutes to place 15 ft of deck and 15 minutes to relocate work bridge. The process required additional resources of an extra work bridge, water buffalo with pump & lines, and 2 laborers.

The bridge deck is under observation for improved performance. Tobin related that his inspections showed cracking at approximately the same spacing in the fog cured deck as in the conventional wet-blanket cured deck.

Action Item: Mo and Tobin will continue to monitor the deck and will relate performance observations at future meetings.

The next meeting is scheduled for 1 Dec 06.